CLAIMS

We claim:

1. A method for identifying proteins which function as intercellular signals between a signaling cell and affected cells, the method comprising the steps of

inserting a cDNA library from the signaling cell into a phage ;

incubating the phage with the affected cells;

washing phage which does not bind to the affected cells;

eluting the phage which does bind to the affected cells; and

sequencing the cDNA inserts in the bound phage to identify sequence information useful for characterizing a protein made by the signaling cell and recognized by a receptor in the affected cells.

2. A method as claimed in claim 1 wherein the signaling cells are fibroblasts and the affected cells are embryonic stem cells.

3. A method as claimed in claim 2 wherein the embryonic stem cells are human.

4. A method as claimed in claim 1 wherein there are multiple binding and washing steps to enrich the proportion of bound phage to affected cells.

5. A method as claimed in claim 4 wherein there are two to four repetitions of the binding and washing steps.

6. A method for identifying proteins which function as intercellular signals between a fibroblast cell and embryonic stem cells cells, the method comprising the steps of

inserting a cDNA library from the fibroblast cell into phage to make a phage library;

incubating the phage library with the stem cells;

washing phage which does not bind to the stem cells;

repeating the incubating and washing steps as needed to enrich the proportion of bound phage to the stem cells;

eluting the phage which does bind to the stem cells; and

sequencing the cDNA inserts in the bound phage to derive sequence information identifying a protein made by the fibroblast and recognized by a receptor in the stem cells.